

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2003/001407

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 H01M 4/90

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC C01B 31/02, H01M 4/86, H01M 4/88, H01M 4/90

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean patents and applications for inventions since 1975

Korean Utility models and applications for Utility models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2003/0108785 A1 (L. W, Auburn, Al.(US). 12, Jun. 2003) See the entire sentence	1-13
A	US 005879827 A (Minesota Mining and Manufacyuring Company, St. Paul, Minn. 09, Mar. 1999) See the entire sentence.	1-13
A	US 6482763 B2 (3M Innovative Properties Company, Saint paul, MN (US). 19, Nov. 2002) See the entire sentence	1-13
A	US 5928804 A (The University of Iowa Research Foundation, Iowa City, Iowa. 27, Jul. 1999) See the entire sentence	1-13

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	
"A"	document defining the general state of the art which is not considered to be of particular relevance
"E"	earlier application or patent but published on or after the international filing date
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
"O"	document referring to an oral disclosure, use, exhibition or other means
"P"	document published prior to the international filing date but later than the priority date claimed
"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&"	document member of the same patent family

Date of the actual completion of the international search

13 APRIL 2004 (13.04.2004)

Date of mailing of the international search report

14 APRIL 2004 (14.04.2004)

Name and mailing address of the ISA/KR



Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon 302-701,
Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

KO, Hong Yeol

Telephone No. 82-42-481-5720



PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 2003OPA2764	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/KR2003/001407	International filing date (<i>day/month/year</i>) 16 JULY 2003 (16.07.2003)	(Earliest) Priority Date (<i>day/month/year</i>)
Applicant KYUNGWON ENTERPRISE CO., LTD. et al		

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. Certain claims were found unsearchable (See Box No. II)

3. Unity of invention is lacking (See Box No. III)

4. With regard to the title,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the abstract,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. 5

as suggested by the applicant.

because the applicant failed to suggest a figure.

because this figure better characterizes the invention.

b. none of the figure is to be published with the abstract.

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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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PCT/KR2003/001407

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2003/0108785 A1	12, Jun. 2003	None	None
US 5879827 A	09, Mar. 1999	WO 9919066 A1	02, 04, 1999
		EP 1021246 A1	26, 07, 2000
US 6482763 B2	19, Nov. 2002	WO 200148839 A2	05, 07, 2001
		EP 1249046 A2	16, 10, 2002
US 5928804 A	27, Jul. 1999	None	None